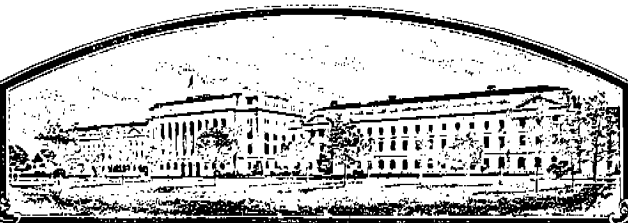


No.



7300013

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

ACCO Seed *Cargill Inc*

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

DDW
8/12/80

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *seventeen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (34 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

COTTON

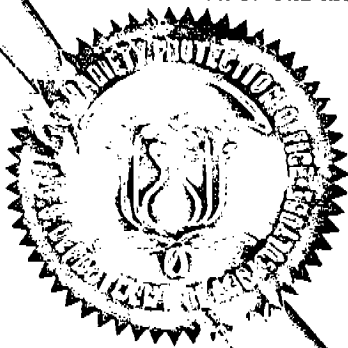
'Paymaster Dwarf'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 28th day of June in the year of our Lord one thousand nine hundred and seventy-four

Attest:

L. J. Rollin
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Carl L. Bitt
Secretary of Agriculture



APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

1. VARIETY NAME OR TEMPORARY DESIGNATION	2. KIND NAME	FOR OFFICIAL USE ONLY	
Paymaster Dwarf	cotton	PVPO NUMBER	73013
3. GENUS AND SPECIES NAME	4. FAMILY NAME (Botanical)	FILING DATE	TIME
Gossypium hirsutum	Malvaceae	10/10/72	1:15 P.M.
	5. DATE OF DETERMINATION	FEE RECEIVED	CHARGES
	1968	\$750.00 BR	
6. NAME OF APPLICANT(S)	7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)	8. TELEPHONE AREA CODE AND NUMBER	
ACCO SEED, Division of Anderson, Clayton & Co. CARGILL INC 8011 8/12/80	15615 W. MC GINTY RD 515 River Avenue, North Belmond, Iowa 50421 MINNETONKA MINN. 55343	(515) 444-2291	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.)	10. STATE OF INCORPORATION	11. DATE OF INCORPORATION	
Corporation	Delaware	1929	
12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers:			
DR DELBERT HESS ACCO SEED Box 1630 PLAINVIEW TEXAS 79072 801 292-2628			
13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:			
<input checked="" type="checkbox"/> 12A. Exhibit A, Origin and Breeding History of the Variety (See Section 52, P.L. 91-577)			
<input checked="" type="checkbox"/> 12B. Exhibit B, Botanical Description of the Variety			
<input type="checkbox"/> 12C. Exhibit C, Objective Description of the Variety			
<input checked="" type="checkbox"/> 12D. Exhibit D, Data Indicative of Novelty			
<input checked="" type="checkbox"/> 12E. Exhibit E, Statement of the Basis of Applicant's Ownership			
The applicant declares that a viable sample of basic seed of this variety will be deposited upon request before issuance of a certificate and will be replenished periodically in accordance with such regulations as may be applicable. (See Section 52, P.L. 91-577).			
14A. Does the applicant(s) specify that seed of this variety be sold by variety name only as a class of certified seed? (See Section 83(a), P.L. 91-577) (If "Yes," answer 14B and 14C below.) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
14B. Does the applicant(s) specify that this variety be limited as to number of generations? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		14C. If "Yes," to 14B, how many generations of production beyond breeder seed? 3	
Applicant is informed that false representation herein can jeopardize protection and result in penalties.			
The undersigned applicant(s) of this sexually-reproduced novel plant variety believes that the variety is distinct, uniform, and stable as required in Section 41 and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act (P.L. 91-577).			

October 3, 1972

(DATE)

FORM GR-470 (REVERSE)

(DATE)

W. I. McKay, General Mgr. ACCO SEED

(SIGNATURE OF APPLICANT)

EXHIBIT A

Origin and Breeding History of the Variety

letter
2/15/74

The breeding material, from which this cotton strain was developed, came from a thesis study of the late Larry Pool who worked under the direction of Dr. Luther Bird at Texas A & M University. Mr. Pool crossed a Paymaster breeding stock designated as Paymaster 105 to a breeding stock, ^{146-21 OF 62} furnished by Dr. Bird, that was carrying the B4 gene for bacterial blight resistance. Dwarf or diminutive plants occurred as segregates from this cross.

Plant-to-row selections were made for several generations with numerous characteristics being improved. Several of the most promising nursery rows were bulk harvested in 1967 for subsequent testing and multiplication. Most of the selection and testing of this material was done on the High Plains of Texas although the variety has been observed by breeders and cotton production specialists throughout the cotton belt.

Some variation in plant height, and stormproofness is evident in this variety especially when grown in sparse plant populations. Variation in density of gossypol glands may also be evident. Pollen color is mixed with some flowers having yellow pollen and some white.

Since the first yield tests of this variety were conducted in 1968, the characteristics exhibited have been essentially the same on all seed lots tested. Since the final form of the variety is a blend of several advance generation strains, the variety is genetically stable and with proper maintenance should remain so indefinitely.

EXHIBIT B

Botanical Description of the Variety

Paymaster Dwarf has a medium size seed (seed index of approximately 11.0 - 12.0); produces flowers earlier than most cotton varieties; has flowers with white petals and pollen that is either white or yellow; and possesses rather large bolls born close to the central axis.

The mature plant is considerably shorter than most varieties and when grown under rather dry hot conditions may not exceed 12 inches in height. Usual height is approximately 20 inches but under some conditions the plants may be considerably taller. Bolls are semi-stormproof. Lint percent is higher than most Plains cotton varieties both on a picked and stripped basis. Approximate fiber properties are: 2.5 span length, 15/16 to 1 inch; Pressley strength, 80,000 PSI; micronaire 4.0 or higher when mature.

In comparison with Paymaster 111, the Paymaster Dwarf is shorter in plant height; more closely fruited; earlier in days to flower; has smaller seed; and has shorter, weaker and finer fiber.

OBJECTIVE DESCRIPTION OF VARIETY
COTTON (*GOSSYPIMUM* SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S) ACCO SEED	FOR OFFICIAL USE ONLY
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) 515 River Ave. North Belmond, Iowa 50421	PVPO NUMBER 73013
	VARIETY NAME OR TEMPORARY DESIGNATION Paymaster Dwarf

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g., or) when number is either 99 or less or 9 or less.

1. SPECIES:

 1 = *GOSSYPIMUM HIRSUTUM* 2 = *GOSSYPIMUM BARBADENSE*

2. AREA(S) OF ADAPTION (0 = Not Tested, 1 = Not Adapted, 2 = Adapted):

<input type="text" value="0"/> EASTERN	<input type="text" value="0"/> DELTA	<input type="text" value="0"/> CENTRAL	<input type="text" value="2"/> HIGH PLAINS	<input type="text" value="0"/> EL PASO AREA
<input type="text" value="0"/> WESTERN LOW HOT VALLEYS	<input type="text" value="0"/> SAN JOAQUIN	<input type="text" value=""/> OTHER (Specify) _____		

3. MATURITY (50% Open Boll):

<input type="text" value="1"/> <input type="text" value="2"/> NO. OF DAYS EARLIER THAN	<input type="text" value="4"/> }	1 = COKER 310	2 = DELTAPINE 16	3 = STONEVILLE 213
<input type="text" value=""/> <input type="text" value=""/> NO. OF DAYS LATER THAN	<input type="text" value=""/> }	4 = PAYMASTER 111	5 = ACALA 1517-70	6 = ACALA SJ-1
		7 = LANKART 57	8 = OTHER (Specify) _____	

4. PLANT HABIT:

<input type="text" value="3"/> 1 = SPREADING	2 = INTERMEDIATE	3 = COMPACT	<input type="text" value="3"/> 1 = FOLIAGE SPARSE	2 = DENSE
			3 = OTHER (Specify) <u>intermediate</u>	

5. PLANT HEIGHT:

<input type="text" value="1"/> <input type="text" value="5"/> CM. SHORTER THAN	<input type="text" value="4"/> }	1 = COKER 310	2 = DELTAPINE 16	3 = STONEVILLE 213
<input type="text" value=""/> <input type="text" value=""/> CM. TALLER THAN	<input type="text" value=""/> }	4 = PAYMASTER 111	5 = ACALA 1517-70	6 = ACALA SJ-1
		7 = LANKART 57	8 = OTHER (Specify) _____	

6. MAIN STEM:

<input type="text" value="3"/> 1 = LAX	2 = ASCENDING	3 = ERECT	<input type="text" value=""/> CM. TO FIRST FRUITING BRANCH	<input type="text" value=""/> NO. OF NODES TO FIRST FRUITING BRANCH (from cotyledonary node)
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7. LEAF:

 CM. WIDTH OF WIDEST LEAVES AT MATURITY

8. LEAF PUBESCENCE:

<input type="text" value="3"/> 1 = GLABROUS (HAIRS AS SPARSE AS D ₂ SMOOTH)	2 = SMOOTH LEAF (DELTAPINE SMOOTH LEAF)	3 = PUBESCENT (STONEVILLE 213)
4 = HEAVY PUBESCENCE (H ₁ OR H ₂)		
5 = OTHER (Specify) _____		

9. LEAF COLOR:

<input type="text" value="2"/> 1 = VIRESCENT YELLOW	2 = LIGHT GREEN	3 = DARK GREEN (Acala-442)	4 = RED
5 = OTHER (Specify) _____			

10. LEAF TYPE:

<input type="text" value="1"/> 1 = NORMAL	2 = OKRA	3 = SUPER OKRA	4 = OTHER (Specify) _____
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11. FLOWER:

<input type="text" value="2"/> 1 = NECTARILESS	2 = NECTARIED
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<input type="text" value="1"/> Petals: 1 = CREAM	2 = YELLOW	<input type="text" value="1"/> Pollen: 1 = CREAM	2 = YELLOW	occasional yellow
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12. FRUITING BRANCH TYPE:

<input type="text" value="2"/> 1 = CLUSTER	2 = SHORT	3 = NORMAL	<input type="text" value="1"/> 1 = DETERMINATE	2 = INDETERMINATE
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13. GOSSYPOL CONDITION:

<input type="text" value="3"/> 1 = GLANDLESS	2 = REDUCED GLANDS	3 = NORMAL GLANDS	<input type="text" value="1"/> 1 = NORMAL BUD GOSSYPOL
4 = OTHER (Specify) _____			2 = HIGH BUD GOSSYPOL

14. SEEDS:

<input type="text" value="1"/> <input type="text" value="1"/> <input type="text" value="5"/> ± <input type="text" value="2"/> <input type="text" value="0"/> SEED INDEX (Fuzzy seed basis)	<input type="text" value="2"/> Seed Fuzz: 1 = SPARSE (GREGG 35)	2 = MODERATE (DPL-16)
	3 = HEAVY (ACALA SJ-1)	4 = OTHER (Specify) <u>4</u>

15. BOLLS:

<input type="text" value="2"/> Locules:	1 = 3-4 2 = 4-5	<input type="text" value=""/> <input type="text" value=""/> NO. SEEDS PER BOLL	<input type="text" value="4"/> <input type="text" value="0"/> <input type="text" value="2"/> LINT PERCENT	<input type="text" value=""/> <input type="text" value=""/> MM. DIAMETER
<input type="text" value="3"/> Pitted:	1 = NONE 2 = FINELY 3 = COARSELY	<input type="text" value="5"/> <input type="text" value="5"/> <input type="text" value="0"/> GRAMS SEED COTTON PER BOLL	<input type="text" value="2"/> Breadth:	1 = BROADER AT BASE 2 = BROADER AT MIDDLE
<input type="text" value="2"/> Type:	1 = STORMPROOF (WESTBURN 70) 2 = STORM RESISTANT (LANKART 57) 3 = OPEN (DELTAPINE 16)	<input checked="" type="text" value="3"/> Shape:	1 = LENGTH < WIDTH 2 = LENGTH = WIDTH 3 = LENGTH > WIDTH	

16. BRACTEOLAS:

<input type="text" value="1"/> Breadth:	1 = LENGTH < WIDTH 2 = LENGTH = WIDTH 3 = LENGTH > WIDTH	<input type="text" value="3"/> Teeth:	1 = 3-4 2 = 5-7 3 = 8-10 4 = OTHER (Specify) _____
<input type="text" value="2"/> Teeth:	1 = FINE 2 = COURSE		

17. YIELD: Compared to—

<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/>	PERCENT LESS THAN	<input type="text" value=""/>	} 1 = COKER 310 2 = DELTAPINE 16 3 = STONEVILLE 213 4 = PAYMASTER 111 5 = ACALA 1517-70 6 = ACALA SJ-1 7 = LANKART 57
<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/>	PERCENT MORE THAN	<input type="text" value=""/>	

18. FIBER LENGTH (Complete one or more of the following and give the means):

<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/>	SPAN LENGTH 50%	<input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="0"/> SPAN LENGTH 2.5%	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> U.H.M. LENGTH
<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/>	MEAN LENGTH	<input type="text" value="3"/> <input type="text" value="2"/> STAPLE LENGTH 32nd INCHES	
<input type="text" value=""/> <input type="text" value=""/>	UNIFORMITY RATIO (MEAN/U.H.M.)	<input type="text" value=""/> <input type="text" value=""/>	UNIFORMITY INDEX (50% SPAN/2.5% SPAN)

19. FIBER STRENGTH AND ELONGATION:

<input type="text" value="8"/> <input type="text" value="0"/> 1,000 P.S.I.	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> ELONGATION E_1	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> STILOMETER T_0
<input type="text" value="4"/> <input type="text" value="2"/> <input type="text" value="5"/> MICRONAIRE READING	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> YARN STRENGTH (Give test method)	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> STILOMETER T_1

20. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

<input type="text" value="1"/> VERTICILLIUM WILT	<input type="text" value="1"/> FUSARIUM WILT	<input type="text" value="1"/> ROOT KNOT NEMATODE	<input type="text" value="2"/> BACTERIAL BLIGHT (Race 1)
<input type="text" value="2"/> BACTERIAL BLIGHT (Race 2)	<input type="text" value="0"/> ASCOCHYTA BLIGHT	<input type="text" value="1"/> PHYMATOTRICHUM ROOT ROT	<input type="text" value="0"/> RHIZOCTONIA
<input type="text" value="0"/> ANTHRACNOSE	<input type="text" value="0"/> RUST	<input type="text" value=""/> OTHER (Specify) _____	

21. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

<input type="text" value="0"/> BOLL WEEVIL	<input type="text" value="0"/> APHID	<input type="text" value="0"/> FLEAHOPPER	<input type="text" value="0"/> LEAFWORM
<input type="text" value="0"/> FALL ARMYWORM	<input type="text" value="0"/> GRASSHOPPER	<input type="text" value="0"/> LYGUS	<input type="text" value="0"/> PINK BOLLWORM
<input type="text" value="0"/> STINKBUG	<input type="text" value="0"/> THRIP	<input type="text" value="0"/> CUTWORM	<input type="text" value="0"/> SPIDERMITTE
<input type="text" value=""/> OTHER (Specify) _____			

REFERENCES: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (1) Brown, Harry B., and J. O. Ware, 1958, Cotton, McGraw-Hill Book Company, Inc., New York.
- (2) Lewis, C. F., and H. H. Ramey, Jr., 1971, 1970 Regional Cotton Variety Tests, ARS 34-130, United States Department of Agriculture.

COLORS: Nickerson's or any recognized color fan may be used to determine flower color of the described variety.



DIVISION OF
ANDERSON, CLAYTON & CO.

SOUTHWESTERN OFFICE:

P. O. BOX 1630

PLAINVIEW, TEXAS 79072

PHONE: (806) 652-3312

Plainview, Texas
February 15, 1974

Mr. J. J. Higgins, Examiner
Plant Variety Protection Office
USDA Grain Division
6525 Belcrest Road
Hyattsville, Maryland 20782

Dear Mr. Higgins:

Reference is made to your letter to Dr. Loden dated January 22, 1974 regarding cotton applications Nos. 73013 and 73015.

Our Company has decided not to market seed of Paymaster 1764 and consequently request that the application 73015 be withdrawn and that no further effort be made to place this variety under protection.

We do not have reliable data pertaining to yarn strengths since we rely mostly on fiber analyses instead of spinning tests in determining fiber characteristics.

Regarding novelty, Paymaster Dwarf does not "closely resemble" any commercially available variety that I am aware of. The bolls are approximately the same size as those of Paymaster 101-B and are similar in appearance. Although specific data are not available, the Paymaster Dwarf boll period (days from white flower to open boll) is relatively long, approaching that of the Western grown Acala cottons. This boll period may be as long as 65 days even under rather high temperatures. Although the boll period is long, the early blooming characteristic and the very rapid subsequent fruiting enables the variety to be earlier overall than the more conventional varieties. This combination makes Paymaster Dwarf "novel" more than any other specific characteristic.

In five replicated tests over a three-year period, the plant height of Paymaster Dwarf averaged 79.17 percent of the height of Paymaster 18, a variety considered to be about average for Plains varieties. Specific heights in these tests were: Paymaster 18, 23.04 inches and Paymaster Dwarf, 18.24 inches.

The frequencies of the variants mentioned in exhibit A have not been reliably measured.

The breeding stock from Dr. Bird's program that was used in creating Paymaster Dwarf had the designation 146-21 UF 62 and is referred to in most of our records as B4.

Reliable data regarding the 50 percent span length and uniformity index are not available since most fiber samples have not been analysed on a fibrograph.

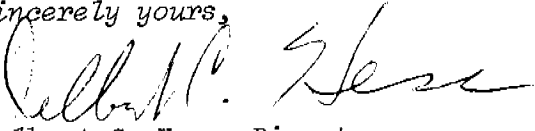
The bolls of Paymaster Dwarf are slightly longer than they are wide. Please

change our Exhibit C to indicate this relationship.

ACCO SEED, a division of Anderson, Clayton and Company, is the owner of the variety, Paymaster Dwarf.

A check in the amount of \$250.00 is enclosed for search or examination for the application 73013 pertaining to the Paymaster Dwarf variety.

Sincerely yours,



Delbert C. Hess, Director
Cotton Research

DCH/lc

enclosure

cc: Mr. W. I. McKay, Belmond, Iowa

EXHIBIT D
Data Indicative of Novelty

Paymaster Dwarf is novel in that the plants are shorter than other short growing stripper varieties such as Paymaster 18, Paymaster 101-B, Paymaster 202, Paymaster 111-A and Lankart 57. Paymaster Dwarf averaged 13 cm shorter than Paymaster 18 in replicated yield tests on the Plains of Texas in the years 1970 through 1973.

6

3 2 1 0 9 8 7 6 5 4 3 2 1 0

EXHIBIT D

Data Indicative of Novelty

The Paymaster Dwarf cotton variety is novel in that: (1) Plants are significantly shorter than other commercial cotton varieties and (2) Fruiting is early and the boll load is set relatively early.

#73013

EXHIBIT E

Statement of the Basis of Applicant's Ownership

All developmental work on this variety was done by breeders employed by the applicant, ACCO SEED, Division of Anderson, Clayton and Company.

This variety was approved for certification by the Texas Seed and Plant Board on July 13, 1972.